Detector Operations

Eric James

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CDF Weekly Meeting

Record Week

- Tevatron Run II records
  - Instantaneous Stacking Rate = 12.40 mA/hr
  - Initial Average Luminosity = 30.15e30
  - Weekly Integrated Luminosity = 4.7 pb^{-1}

CDF

Date	Store	Duration	Initial Lum.	Integrated Lum.	Live Lum.	ε	Comments
R 9/19	1770	24.3	25.2e30	1098.3	924.7	84.2%	Silicon late due to TEL
Sa 9/21	1775	9.8	29.8e30	715.8	550.4	76.9%	
Su 9/22	1779	15.9	29.4e30	976.3	720.0	73.7%	Silicon P.S. failure
M 9/23	1781	8.6	29.5e30	654.1	486.7	74.4%	
T 9/24	1787	17.8	32.0e30	1103.5	878.6	79.6%	Silicon late due to RF
	Total	76.4		4548.0	3560.4	78.3%	

Moving from 80% → 90%

- Downtime logger for this week's five stores shows 13.9 hours of deadtime (18%).
  - DAQ + Trig = 9.2 hours
  - High Voltage = 2.2 hours
  - Miscellaneous = 1.5 hours
- A minimum of 20 minutes at the start of each store is required to safely bring up all high voltages including silicon.

DAQ & Trigger Hardware

- The main focus is on finding the problems that require a re-initialization to recover.
- Some progress has been made in this area over the last week.
  - VRB bad byte counts – reducing the size of the SVDD bank seems to have significantly reduced the error rate. Also, new PROM installed in SRC.
  - Spurious L1 timeouts – new PROM installed in TS #7.

DAQ & Trigger Hardware

- Scanner Manager Timeouts – testing in progress for new event builder control code.
- L2 Decision Timeouts – replaced FIB Fanout.
- VRB Bus Errors – new recovery procedure that allows for VRB reset without new run start.
- Showermax Readout Errors – card swap has eliminated or reduced error rate.
- TDC Done Timeouts – still under investigation.

Conclusions

- The Tevatron performance during the last week was far and away the best for Run II.
- Our main focus has been on improving operational efficiency to take full advantage of this improvement in accelerator performance.
- We've started to observe some operational improvement in the last few stores as a result of ongoing DAQ work and hope to see additional improvement coming out of this beam studies period.